

REMARKS

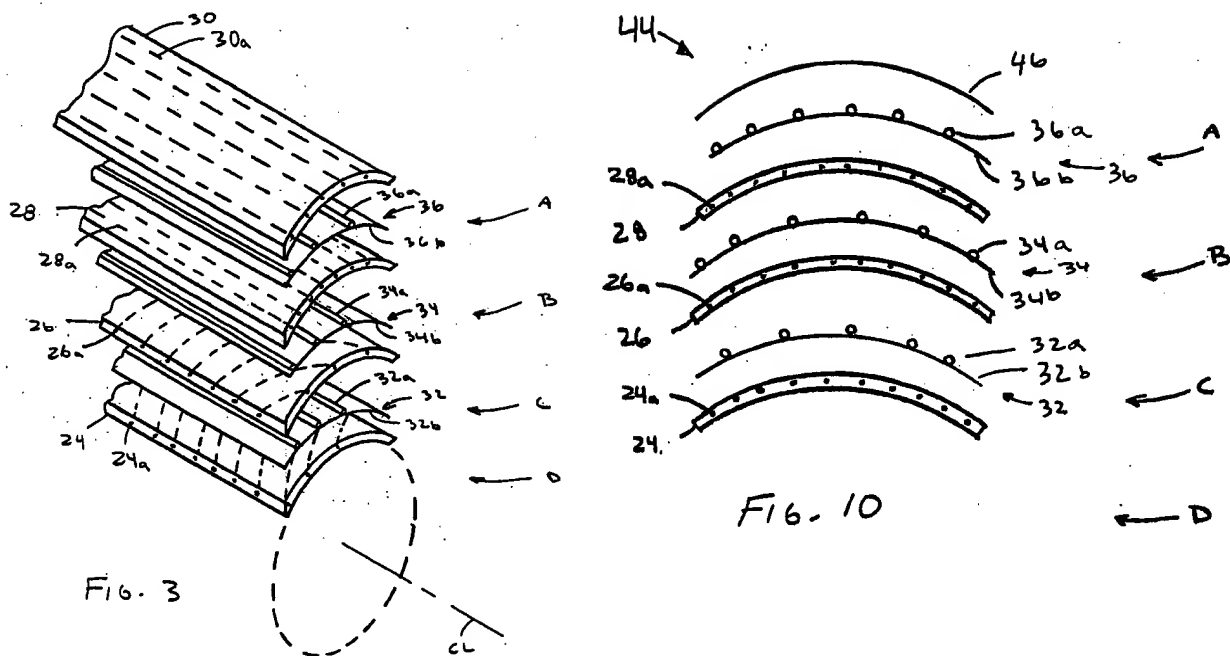
I. PRELIMINARY REMARKS

Claims 42-47 have been added. No claims have been canceled or amended. Claims 1, 3, 5-15, 17, 19-32 and 35-47 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Applicant notes with appreciation that claims 1, 3, 5-15, 17, 19-32 and 35-37 have been allowed.

II. BRIEF DESCRIPTION OF AN EXEMPLARY EMBODIMENT

The present application discloses a variety of golf club shaft configurations. Referring first to Figure 3, which is reproduced on the following page for the Examiner's convenience, one embodiment of an invention disclosed in the present application includes a plurality of metal fiber layers 32, 34 and 36. The specification states that "the metal fiber layers 32, 34 and 36 are preferably pre-preg sheets formed by winding the metal fibers 32a, 34a and 36a onto **resin pre-impregnated fiberglass sheets (or "scrim cloth")** 32b, 34b and 36b." [Specification at page 6, lines 12-14.] As is known to those of skill art, scrim cloth includes woven fibers that cross over one another to form the cloth within the resin. The exemplary shaft illustrated in Figure 3 also includes groups of layers of **fiber reinforced resin composites**, which are identified by reference numerals 24, 26, 28 and 30.



Figures 3 and 10 of the Present Application

Referring to Figure 10, the corrected version of which is reproduced above for the Examiner's convenience, one embodiment of an invention disclosed in the present application includes an outer metal fiber layer 36 and an outer-most layer 46 over the metal fiber layer 36. The outer-most layer 46 consists of one or more **resin pre-impregnated fiberglass sheets**. [Specification at page 10, lines 5-13.] The metal fiber layer 36 includes metal fibers 36a and a resin pre-impregnated fiberglass sheet 36b. The application also clearly indicates that "**scrim cloth**" is **one example of a resin pre-impregnated fiberglass sheet** that may be incorporated into the present inventions. [Specification at page 6, line 14.]

III. PATENTABILITY REJECTIONS

A. The Rejections

Claims 38, 40 and 41 have been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Takezawa, Takemura and Honma

patents. Claims 39 has been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Takezawa, Takemura, Honma and Noguchi patents. The rejections under 35 U.S.C. § 103 are respectfully traversed. Reconsideration thereof is respectfully requested.

B. The Cited References

The Takezawa patent discloses a variety of hybrid prepreg sheets. The hybrid prepreg sheet illustrated in Figure 3 is formed from two **carbon fiber reinforced sheets** 4A and 4B, which include unidirectional carbon reinforcing fibers 2, and a plurality of unidirectional foreign fibers 6 that are positioned between the carbon fiber reinforced sheets. The foreign fibers 6 may be metal fibers. The Takezawa patent also discloses golf club shafts incorporating the hybrid prepreg sheets. Referring to Figure 20 and column 22, lines 12-47, for example, the shafts include a plurality of conventional carbon fiber reinforced prepreg sheets in conjunction with one of the hybrid prepreg sheets.

The Takemura patent discloses shafts including a number of conventional fiber reinforced resin layers. The fibers within each Takemura layer are unidirectional.

The Honma patent discloses a shaft with metal fibers.

The Noguchi patent discloses a shaft with a transparent outer layer.

C. Discussion

Independent claim 38 calls for a combination of elements including, *inter alia*, an inner scrim cloth over fiber reinforced resin layers, an outer scrim cloth and a plurality of longitudinally extending metal fibers located between the inner and outer scrim cloths. The cited references fail to teach or suggest such a combination.

For example, and as noted by the Examiner on page 12 of the August 14, 2002 Office Action, the prior art does disclose the use of scrim cloth in the manner defined by independent claim 38. There does not appear to be any new information in the record that would support the Examiner's reversal on this issue. Nevertheless, the outstanding

Office Action appears to have taken the position that the Takezawa carbon fiber reinforced sheets 4A and 4B are each a "scrim cloth," as this term is used in independent claim 38. Applicant respectfully submits that this interpretation of independent claim 38 is unreasonable because it is inconsistent with the specification and inconsistent with the interpretation that those skilled in the art would reach. See, e.g., *In re Cortright*, 49 USPQ2d 1464, 1467 (Fed. Cir. 1999).

With respect to the specification, the present specification clearly distinguishes between **carbon fiber reinforced** layers, such as the Takezawa carbon fiber reinforced sheets 4A and 4B, and scrim cloth. Fiber reinforced layers are referred to as "fiber reinforced resin composite" layers in the present specification. [Page 4, lines 18-21.] The present specification also indicates that carbon fibers may be used for this purpose. [Page 8, lines 14-20.] "Scrim cloth," on the other hand, is defined in the present application as one example of **resin pre-impregnated fiberglass** sheet. [Page 6, lines 12-14.]

Turning to the interpretation that those of skill in the art would reach, applicant respectfully submits that those of skill in the art would understand that scrim cloth includes fibers that **cross over one another** to form the cloth within the resin. To the extent that there is any question as to the meaning ascribed to the term "scrim cloth" by those of skill in the art, the Examiner's attention is respectfully directed to the attached documents, which show various examples of the use of the term "scrim cloth." U.S. Patent No. 5,705,764, which is attached hereto as Exhibit 1, refers to "a first scrim cloth 29, which comprises an open **weave** of fiberglass material embedded in a first layer of epoxy." [Column 1, lines 50-52, emphasis added.] The FiberGlast Developments Corporation *Glossary of Terms in Composites*, which is attached hereto as Exhibit 2, defines scrim as "[a] low-cost reinforcing **fabric** made from continuous filament yarn in an **open-mesh** construction. Used in the processing of tape or other B-stage material to facilitate handling. **Also used as a carrier of adhesive, to be used in secondary bonding.**" [Emphasis added.] PCT Pub. No. WO 99/03675, which is attached hereto as Exhibit 3, states that "[t]he **fabric** scrim consists of fibers such as glass, carbon,

Nomex® brand aramid fibrids, or a combination thereof [that] can be constructed in various styles of **weave** such as plain, satin or a twill.” [Page 5.]

As illustrated above, one of ordinary skill in the art who had reviewed the present application would understand that the Takezawa fiber reinforced sheets 4A and 4B, which include unidirectional reinforcing fibers, simply are not “scrim cloths.”

Turning to the Takemura, Honma and Noguchi patents, applicant respectfully submits that these patents fail to remedy the above-identified deficiencies in the Takezawa patent.

4. Conclusion

As the cited references fail to teach or suggest the combination of elements recited in independent claim 38, whether viewed alone or in combination, applicant respectfully submits that the rejections of claims 38-41 under 35 U.S.C. § 103 are improper and should be withdrawn.

IV. NEWLY PRESENTED CLAIMS 42-47

Newly presented independent claim 42 calls for a combination of elements comprising “a plurality of carbon fiber reinforced resin layers defining a tip, a tip section, a main body section, a grip section, a butt and a longitudinal axis,” “an inner resin pre-impregnated fiberglass sheet over the fiber reinforced resin layers,” “an outer resin pre-impregnated fiberglass sheet” and “a plurality of longitudinally extending metal fibers located between the inner and outer resin pre-impregnated fiberglass sheets.” Applicant respectfully submits that the prior art of record fails to teach or suggest such a combination and, accordingly, that claims 42-47 are patentable thereover.

V. CLOSING REMARKS

In view of the foregoing, it is respectfully submitted that the claims in the application are in condition for allowance. Reexamination and reconsideration of the application, as amended, are respectfully requested. Allowance of the claims at an early date is courteously solicited.

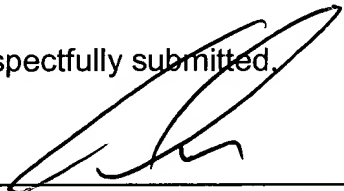
If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call applicant's undersigned representative at (310) 563-1458 to discuss the steps necessary for placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0638. Should such fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

3/23/03
Date

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Respectfully submitted,



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